

1 WHAT IS CLAIMED IS:

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3 1. A process for producing stable lubricant bright stock comprising the
4 steps of:

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6 a) providing a petroleum residuum-derived stream having a sulfur
7 content of less than 1% and a nitrogen content of less than
8 0.5%;

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10 b) separating the residuum-derived stream at a distillation cut point
11 in the range of 1150°F to 1300°F, into a heavy fraction and at
12 least one light fraction;

13

14 c) hydrocracking the at least one light fraction under lube
15 hydrocracking in a lube hydrocracking zone in the presence of a
16 hydrocracking catalyst and hydrogen under conditions to reduce
17 the concentration of sulfur and nitrogen to suitable levels for
18 hydroisomerization dewaxing; and

19

20 d) dewaxing at least a portion of the hydrocracked stream in an
21 hydroisomerization zone in the presence of a hydroisomerization
22 catalyst and hydrogen under hydroisomerization conditions to
23 produce a lubricant bright stock.

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25 2. The process of Claim 1, wherein the petroleum residuum-derived
26 stream is a hydrocracked deasphalted oil.

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28 3. The process of Claim 1, wherein the petroleum residuum-derived
29 stream is a hydrocracked residuum.

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31 4. The process of Claim 1, wherein the petroleum residuum-derived
32 stream has a concentration of sulfur of less than 0.5% and a
33 concentration of nitrogen of less than 0.2%.

- 1 5. The process of Claim 1, further comprising stabilizing the lubricant
2 bright stock in a hydrofinishing zone in the presence of a hydrofinishing
3 catalyst and hydrogen under hydrofinishing conditions.
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- 5 6. The process of Claim 5, further comprising contacting the stabilized
6 lubricant bright stock with clay in a clay treatment zone.
7
- 8 7. The process of Claim 1, wherein the bright stock has a viscosity,
9 measured at 100°C, of greater than 15 cSt and viscosity index of
10 greater than 80.
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- 12 8. The process of Claim 7, wherein the bright stock has a viscosity index
13 of greater than 90.
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- 15 9. The process of Claim 1, wherein the bright stock has a viscosity in the
16 range of 20 and 60 cSt, measured at 100°C.
17
- 18 10. The process according to Claim 1, wherein the hydroisomerization
19 catalyst is selected from the group consisting of SAPO-11, SAPO-31,
20 SAPO-41, SM-3, ZSM-22, ZSM-23, ZSM-35, ZSM-48, ZSM-57,
21 SSZ-32, offretite, ferrierite and combinations thereof.
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- 23 11. The process according to Claim 10, wherein the hydroisomerization
24 catalyst is selected from the group consisting of SAPO-11, SAPO-31,
25 SM-3, SSZ-32, and ZSM-23.
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- 27 12. The process according to Claim 11, wherein the hydroisomerization
28 catalyst is selected from the group consisting of SAPO-11, SM-3,
29 SSZ-32, and ZSM-23.
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- 31 13. The process according to Claim 1, wherein the hydroisomerization
32 catalyst has a metal hydrogenation component.

- 1 14. The process according to Claim 13, wherein the metal hydrogenation
2 component is platinum, palladium, or a mixture thereof.
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- 4 15. The process according to Claim 10 wherein the metal hydrogenation
5 component is platinum.
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- 7 16. The process according to Claim 1, wherein the suitable levels for
8 hydroisomerization dewaxing include a concentration of nitrogen of
9 less than 50 ppm and a concentration of sulfur of less than 100 ppm.
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- 11 17. The process according to Claim 1, wherein the suitable levels for
12 hydroisomerization dewaxing include a concentration of nitrogen of
13 less than 30 ppm and a concentration of sulfur of less than 50 ppm.
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- 15 18. The process according to Claim 1, wherein the suitable levels for
16 hydroisomerization dewaxing include a concentration of nitrogen of
17 less than 10 ppm and a concentration of sulfur of less than 20 ppm.